



## **PERMITTING & COMPLIANCE DIVISION**

### **◆ *New Non-Community Water Supply Well* ◆**

## **EXPEDITED REVIEW CHECKLIST**

**October 2007**

### **New Non-Community Water Supply Well Expedited Review Checklist Instructions:**

This checklist procedure may be used to gain approval to drill new non community water supply wells when the conditions listed below are met. Construction of a new well is unlawful until approval is granted by the department, typically issued in a letter to the design engineer submitting the plans and specifications. Normally, the Department will review complete submittals within 15 working days. Submittals that do not contain all of the required information are not considered complete.

### **Conditions for use of the New Non-Community Water Supply Well Checklist:**

1. New wells that require a deviation from the Standards of DEQ-3 are not eligible for checklist review.
2. Review and approval is limited to location and construction of the well. Appurtenances such as discharge piping, pitless adapters, well pumps and well houses are not covered. Storage, treatment and distribution are not covered.
3. Radial well collectors, infiltration lines, and dug wells are not eligible for checklist reviews.
4. The checklist must be signed by a professional engineer.

**Required Documentation:** *Checklists submitted without all of the required documentation will be considered incomplete and will not be processed until all of the required information has been submitted.*

1. A completed New Non-Community Water Supply Well Expedited Checklist Application.
2. An engineering report presenting, at a minimum, the information required in DEQ-3, Chapter 1.
3. Three sets of plans signed and stamped by the professional engineer responsible for the design of the project.
4. Three sets of well specifications signed and stamped by the professional engineer responsible for the design of the project.
5. Three copies of a PWS-6 "Source Water Protection Delineation" report. The report must meet the standards listed in Department Circular PWS-6.
6. Owner certification that a professional engineer will be retained for construction inspection and will certify completion in accordance with the approved plans and prepare as-builts for submittal to the Department within 90 days of project completion.
7. Review Fee as specified in ARM 17.38.106.

Completed checklist submittals may be mailed to: Department of Environmental Quality, Permitting & Compliance Division, Public Water and Subdivisions Bureau, Metcalf Building, P.O. Box 200901, Helena, MT 59620-0901; or for those systems served by the Kalispell Office: Department of Environmental Quality, Public Water Supply Section, 109 Cooperative Way, Suite 105, Kalispell, MT 59901; or for those systems served by the Billings Office: Department of Environmental Quality, Public Water and Subdivisions Bureau, Airport Business Park 1P-9, 1371 Rimtop Drive, Billings, MT 59105-1978. Questions can be answered by writing the above address or calling (406) 444-4400 in Helena, (406) 755-8985 in Kalispell and (406) 247-4445 in Billings.

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
NEW PUBLIC WATER SUPPLY WELL EXPEDITED REVIEW CHECKLIST**

**Project Name** \_\_\_\_\_

Nearest City \_\_\_\_\_ County \_\_\_\_\_

Public Supply Owner \_\_\_\_\_

Developer \_\_\_\_\_

Mailing Address \_\_\_\_\_

Engineer \_\_\_\_\_

Mailing Address \_\_\_\_\_

Will this well be connected to an existing system? If so, PWSID number of system: \_\_\_\_\_

Will this well be associated with a Subdivision? If so, Subdivision name: \_\_\_\_\_

**REQUIRED DOCUMENTATION:**

***Checklists submitted without all of the required documentation will be considered incomplete and will not be processed until all of the required information is submitted.***

**Included?**

**Y No**

- ☐ ☐ An engineering report presenting, at a minimum, all of the information listed below in ENGINEERING REPORT.
- ☐ ☐ Three sets of plans signed and stamped by the professional engineer responsible for the design of the project. The plans must show all of the required information listed below under PLANS.
- ☐ ☐ Three sets of well specifications signed and stamped by the professional engineer responsible for the design of the project. The specifications must meet all of the standards listed below under WELL SPECIFICATIONS.
- ☐ ☐ Three copies of a PWS-6 "Source Water Protection Delineation" report. The report must meet the standards listed in Department Circular PWS-6.
- ☐ ☐ Owner certification that a professional engineer will be retained for construction inspection and will certify completion in accordance with the approved plans and prepare as-builts for submittal to the Department within 90 days of project completion.
- ☐ ☐ Review Fee as specified in ARM 17.38.106.

***Every "Yes" answer must have the page number where the information can be found listed. Every "N/A" answer must be accompanied by a written explanation of the reason the standard is not applicable.***

**ENGINEERING REPORT:**

**Included?**

**Y N/A Page**

**1.1.1 General information, including:**

- ☐ ☐ \_\_\_\_\_ a. description of any existing water works and sewerage facilities,
- ☐ ☐ \_\_\_\_\_ b. identification of the municipality or area served,
- ☐ ☐ \_\_\_\_\_ c. name and mailing address of the owner and developer.

**1.1.2 Extent of water works system, including**

- ☐ ☐ \_\_\_\_\_ a. description of the nature and extent of the area to be served,
- ☐ ☐ \_\_\_\_\_ b. provisions for extending the water works system to include additional areas, and
- ☐ ☐ \_\_\_\_\_ c. appraisal of the future requirements for service, including existing and potential water supply needs.

- ☐ ☐ \_\_\_\_\_ **1.1.3 Alternate plans.** Where two or more solutions exist for providing public water supply facilities, each of which is feasible and practicable, discuss the alternate plans. Give reasons for selecting the one

recommended, including financial considerations, and a comparison of the minimum classification of water works operator required for operation of each alternative facility.

**1.1.4 Water use data, including:**

- |                          |                          |       |  |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. The estimated population which will be served by the proposed water supply system or expanded system      |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. present water consumption and the projected average and maximum daily demands, including fire flow demand |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | c. present and/or estimated yield of the sources of supply.  |

**1.1.5 Sewage system available.** Describe the existing or proposed sewage collection system and sewage treatment works, with special reference to their relationship to existing or proposed water works structures which may affect the operation of the water supply system, or which may affect the quality of the supply.

**1.1.6 Groundwater sources of water supply.** Describe the proposed source or sources of water supply to be developed, including:

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. sites considered,                        |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. advantages of the site selected,         |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | c. elevations with respect to surroundings, |

**3.2.1.1 Quantity**

- |                          |                          |       |  |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. The total developed groundwater source capacity must equal or exceed the design maximum day demand. Adequate storage per DEQ-1 Section 7.0.1 will be required if source capacity is inadequate to meet peak instantaneous demand. |
|--------------------------|--------------------------|-------|--|

**3.2.1.2 Water use estimates for design purposes**

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. Domestic use - 100 gpcd must be provided for average domestic use unless the designer has sufficient data, acceptable to MDEQ, to show a lesser quantity to be adequate.                                     |
|                          |                          |       | b. Irrigation - when irrigation water is provided, information must be submitted to show that adequate water will be available. Such information must include:  |
|                          |                          |       | 1. the area to be irrigated in acres or square feet,  |
|                          |                          |       | 2. water requirements in inches/week,   |
|                          |                          |       | 3. proposed methods of controlling irrigation beyond the capacity of the system.  |
|                          |                          |       | c. Fire flows - fire flows must meet the recommendations of the agency in which the water system is being developed, or in the absence of such a recommendation, the fire code adopted by the State of Montana. |

**3.2.3.1 Well location.** Wells must be located at least 100 feet from sewer lines, septic tanks, holding tanks, and any structure used to convey or retain industrial, storm or sanitary waste.

**3.2.3.2 Continued protection.** Continued protection of the well site from potential sources of contamination must be provided either through ownership, zoning, easements, leasing or other means acceptable to MDEQ. Such protection must extend for a radius of at least 100 feet around the well. Also, separation distances between proposed wells and potential sources of contamination must be defined and justified by the applicant in accordance with Section 1.1.6. The zone of influence of a proposed or existing well must not be in a groundwater mixing zone as defined in ARM 17.30.517. Fencing of the site may be required by MDEQ.

**PLANS:**

**Included?**  
**Y N/A Page**

**1.2.1 General layout, including:**

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. suitable title,  |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. name of entity or person responsible for the water supply, |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | d. scale, in feet,  |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | e. north point,   |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | f. date, and name of the designing engineer,                  |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | g. location and size of existing water facilities, if any.    |

**1.2.2 Detailed plans, including, where pertinent:**

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. arrangement of present or planned wells or structures. |
|--------------------------|--------------------------|-------|---|

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. plan and profile drawings of well construction, showing diameter and depth of drill holes, casing and liner diameters and depths, grouting depths, elevations and designation of geological formations, water levels and other details to describe the proposed well completely, |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | c. location, size and length of existing or proposed streets; water sources, including ponds, lakes and drains; storm, sanitary, combined and house sewers; septic tanks, disposal fields and cesspools; and abandoned wells.   |

### 3.2.3.1 and 3.2.3.2 Well location and continued protection zone

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | Plans must identify the continued protection zone and all sewer lines, septic tanks, holding tanks, groundwater mixing zones and any structure used to convey or retain industrial, storm or sanitary waste located within 100 feet of the proposed well. |
|--------------------------|--------------------------|-------|---|

## WELL SPECIFICATIONS:

### Included?

Y N/A Page

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | <b>3.2 Groundwater</b> All wells must be constructed by a licensed water well contractor in accordance with Title 37, Chapter 43, MCA and Title 36, Chapter 21, ARM, current edition, (Water Well Contractor rules) with the following additional requirements. |
|--------------------------|--------------------------|-------|---|

### 3.2.2.1 Microbiological quality

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. Disinfection of every new, modified or reconditioned groundwater source must be provided in accordance with ARM 36.21.662(1) prior to placement of permanent pumping equipment, and (2) must be provided after placement of permanent pumping equipment.                           |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. More than 72 hours after disinfection, two or more water samples must be submitted to a laboratory certified by the Department of Public Health and Human Services for microbiological analysis with satisfactory results reported to MDEQ prior to placing the well into service. |

### 3.2.2.2 Physical and chemical quality

- |                          |                          |       |  |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. Every new, modified or reconditioned groundwater source must be examined for applicable physical and chemical characteristics by tests of a representative sample in a laboratory certified by the Department of Public Health and Human Services, with the results reported to MDEQ.   |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 1. Testing must include nitrate/nitrite and total dissolved solids or conductivity as a minimum for individual systems and transient non-community, public water systems. Additional testing may be required for other parameters where MDEQ has information suggesting they may be present in harmful quantities or where additional regulatory requirements apply.   |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 2. Testing must include the constituents of ARM 17.38.216 for non-transient, non-community public water systems.   |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. Samples must be collected at the conclusion of the test pumping procedure prior to disinfection and examined as soon as practical. MDEQ may require sample results to be submitted to the Department for review and approval to demonstrate compliance with Title 17, Chapter 38, Sub-Chapter 2, ARM, prior to use of a new source or construction of a new system. |

### 3.2.4.1 Yield and drawdown tests must:

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | a. be performed on every production well after construction or subsequent treatment and prior to placement of the permanent pump,   |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | b. have the test methods clearly indicated in the project specifications,   |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | c. provide data of the following at one-hour intervals or less as may be required by MDEQ: 1. Pumping rate, 2. pumping water levels, 3. static water level, 4. water recovery rate and levels, and 5. time of starting and ending each test cycle,  |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | d. Provide for continuous constant rate pumping at 1.5 times the design pump capacity for at least 24 hours. Data collection must begin at time zero. The test may be terminated if stabilized drawdown occurs for at least six hours during the test. If the design pumping rate is 35 gpm or greater, the minimum stabilized drawdown period must be at least eight hours. When sufficient historical information is available, a step drawdown test, may be approved by MDEQ. The maximum test pumping rate may be reduced to the capacity of the design pump for both the step drawdown test and constant rate test for wells sized to provide peak instantaneous demand. |

- |                          |                          |       |   |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 3.2.4.2 Results must be reported to MDEQ. |
|--------------------------|--------------------------|-------|---|

- |                          |                          |       |  |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | <b>3.2.4.3 Geological data must</b> be determined in accordance with ARM 36.21.667. Upon completion, a copy of the well log must be submitted to MDEQ. |
|--------------------------|--------------------------|-------|--|

### 3.2.5.1 Minimum protected depths

- ☐ ☐ \_\_\_\_\_ a. Wells must have unperforated casing to a minimum depth of 25 feet or continuous disinfection must be provided.
- ☐ ☐ \_\_\_\_\_ b. Full time disinfection with chlorine is required where the water source is an aquifer with a water table that is within 25 feet of the ground surface.

**3.2.5.2 Permanent steel casing pipe must:**

- ☐ ☐ \_\_\_\_\_ a. be in accordance with ARM 36.21.640,
- ☐ ☐ \_\_\_\_\_ b. when driven, be equipped with a drive shoe; and
- ☐ ☐ \_\_\_\_\_ c. have joints in accordance with ARM 36.21.642.

- ☐ ☐ \_\_\_\_\_ **3.2.5.3 Nonferrous casing materials.** Plastic well casing must be in accordance with ARM 36.21.645 and ARM 36.21.646.

- ☐ ☐ \_\_\_\_\_ **3.2.5.4 Packers.** Packers must be of material that will not impart taste, odor, toxic substance or bacterial contamination to the well water. Lead packers must not be used.

**3.2.5.5 Grouting requirements**

- ☐ ☐ \_\_\_\_\_ a. All permanent well casing must be sealed in accordance with ARM 36.21.654 through ARM 36.21.660.
- ☐ ☐ \_\_\_\_\_ b. The casing must be provided with centralizers in accordance with ARM 36.21.649.

**3.2.5.6 Upper terminal well construction**

- ☐ ☐ \_\_\_\_\_ a. Permanent casing for all groundwater sources must be in accordance with ARM 36.21.647.
- ☐ ☐ \_\_\_\_\_ c. Sites subject to flooding must be provided with an earth mound surrounding the casing and terminating at an elevation at least two feet above the 100 year flood level or highest known flood elevation.
- ☐ ☐ \_\_\_\_\_ d. The top of the well casing at sites subject to flooding must terminate at least three feet above the 100 year flood level or the highest known flood elevation, whichever is higher.
- ☐ ☐ \_\_\_\_\_ e. Protection from physical damage must be provided.

**3.2.5.7 Development**

- ☐ ☐ \_\_\_\_\_ a. Every well must be developed in accordance with ARM 36.21.653.

- ☐ ☐ \_\_\_\_\_ **3.2.5.8 Capping requirements.** Temporary capping must be in accordance with ARM 36.21.661

**Additional Comments:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I certify that the plans, specifications, certified checklist and supporting documentation and attachments to be in compliance with all of the applicable standards of the Department of Environmental Quality Circular DEQ 1.

\_\_\_\_\_  
(Signature of Professional Engineer)

\_\_\_\_\_  
(Date Signed)

*PE Stamp*

## **Final Source Approval**

Approval to drill a new non-community well will be conditioned on compliance with applicable DEQ-3 requirements. In order to obtain final source approval to use the new well, the following items need to be submitted to DEQ for approval once the well has been completed:

1. Documentation that an application for water rights has been filed with the Department of Natural Resources when quantities exceed 35 gpm. (DEQ-3, Standard 1.1.6.d).
2. A final assessment for proposed groundwater sources that may be under the direct influence of surface water, prepared in accordance with PWS-5, "Assessment of Groundwater Sources Under the Direct Influence of Surface Water" (DEQ-3, Standard 1.1.6.e).
3. A final Source Water Protection Plan prepared in accordance with PWS-6 if field results differ substantially from that predicted in the preliminary Source Water Protection Plan, (DEQ-3, Standard 1.1.6.f).
4. Documentation that the continued protection zone has been provided through ownership, zoning, easements or leasing. Easements must be filed with the County Clerk and Records Office. (DEQ-3, Standard 3.2.3.2)
5. Test Pump results demonstrating compliance with DEQ-3, Standard 3.2.4.1.
6. Water quality sample results demonstrating compliance with DEQ-3, Standard 3.2.2.1 Microbiological quality, and DEQ-3, Standard 3.2.2.2 Physical, chemical and radiological quality.
7. A copy of the completed well log. (DEQ-3, Standard 3.2.4.3)
8. A discussion of the maximum and peak instantaneous demand in relation to developed source capacity to demonstrate compliance with DEQ-3 Standard 3.2.1.1.
9. A discussion of the static water level of the well and compliance with DEQ-3, Standard 3.2.5.1.

***Please note that source approval is limited to location and construction of the well. Plans and specifications for approval of well appurtenances (discharge piping, pitless adapters, well pumps) must be submitted separately and will not be reviewed under an expedited process. If required, plans and specifications for storage, treatment, distribution, and Appendix information must also be submitted separately and will not be reviewed under an expedited process.***